Remarks

In view of the above amendments and the following remarks, reconsideration of the rejection and further examination are requested.

The specification and abstract have been reviewed and revised to make a number of editorial revisions thereto. A substitute specification and abstract including these revisions have been prepared and are submitted herewith. No new matter has been added. Also submitted herewith are marked-up copies of the substitute specification and abstract indicating the changes incorporated therein.

Claims 1-10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over JP 11-218691 in view of Heller (US 5,849,486).

Claim 1 has been amended so as to further distinguish the present invention from the references relied upon in the rejection. As a result, the above-mentioned rejection is submitted to be inapplicable to the pending claims for the following reasons.

Claim 1 is patentable over the combination of JP 11-218691 and Heller, since claim 1 recites a droplet operation device including, in part, a plurality of electrode units arranged on an insulating substrate, the electrode units for controlling movement and stoppage of a droplet; and an insulating layer covering an upper surface of each of the electrode units, the upper surface being opposite to a lower surface of each of the electrode units that is in contact with the insulating substrate, wherein a surface of the insulating layer is water repellent. The combination of JP 11-218691 and Heller fails to disclose or suggest these features of claim 1.

JP 11-218691 discloses a liquid drop operating device having a water repellent substrate 11 with a number of hydrophilic sections 41-43 for holding liquid drops 31-34 in a stationary position. The liquid drop operating device also has a pH electrode 61 and an ion electrode 62 located on the water repellent substrate 11. (See paragraph [0009] – [0011] and Figure 1).

Based on the above discussion, it is apparent that JP 11-218691 discloses that the pH electrode 61 and the ion electrode 62 are located on the water repellent substrate 11. However, as admitted in the rejection, it is clear from Figure 1 that JP 11-218691 fails to disclose or suggest a plurality of electrode units that are arranged on an insulating substrate, the electrode units for controlling movement and stoppage of a droplet. This is apparent since the hydrophilic sections 41-43 are specifically designed to hold the liquid drops 31-34 stationary. Further, JP 11-218691 fails to disclose or suggest an insulating layer covering an upper surface of each of

the electrode units, the upper surface being opposite to a lower surface of each of the electrode units that is in contact with the insulating substrate, wherein a surface of the insulating layer is water repellent. As a result, Heller must disclose or suggest these features in order for the combination of JP 11-218691 and Heller to render claim 1 obvious.

Regarding Heller, it discloses a matrix hybridization system including a number of microlocations 26a-26d. Each of the microlocations 26a-26d includes an electrode 12, a permeation layer 14 located on the electrode 12, and an attachment region 16 located on the permeation layer 14. The microlocations 26a-26d are ranged such that charged entities 20 can be transported to various microlocations 26a-26d within a reservoir 18. (See column 9, line 66 – column 10, line 40 and Figures 2a and 2b).

Based on the above discussion, it is apparent that the electrodes 12 allow movement with respect to the charged entities 20. However, Heller fails to disclose or suggest that the electrodes 12 are for controlling movement and stoppage of a droplet. Further, Heller also fails to disclose or suggest an insulating layer having a water repellent surface covering the upper surface of each of the electrodes 12. Instead, Heller merely discloses permeation layers 14 and attachment regions 16 which are not disclosed or suggested as being water repellent. Therefore, it is apparent that Heller fails to address the deficiencies of JP 11-218691. As a result, the combination of JP 11-218691 and Heller fails to render claim 1 obvious.

Because of the above-mentioned distinctions, it is believed clear that claims 1-10 are allowable over the references relied upon in the rejection. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-10. Therefore, it is submitted that claims 1-10 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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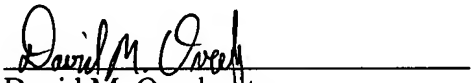
By: 

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